

IN THE U.S. PATENT AND TRADEMARK OFFICE

In re U.S. Patent Application of:

APPLICANTS: Stephen Boyer et al.

SERIAL NO.: 10/797,359 FILING DATE: March 9, 2004

EXAMINER: Skowronek, Karlheinz R ART UNIT: 1631

ATTORNEY'S DOCKET NO.: 909A.0156.U1 (US)

TITLE: A SYSTEM AND METHOD FOR THE INDEXING OF ORGANIC
CHEMICAL STRUCTURES MINED FROM TEXT DOCUMENTS

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL REQUEST FOR REVIEW

Sir:

This is in response to the final Office Action dated July 25, 2008 for the above-captioned U.S. Patent Application, and is filed with the Applicant's Notice of Appeal. Pending claims 1-3, 6-21, 24-39, and 42-46 stand finally rejected. More specifically, the Examiner has:

- rejected claims 1-3, 6-7, 9-17, 19-21, 24-25, 27-35, 37-39, and 42 under 35 USC 103(a) as being unpatentable over (1) Friedman (US6,182,029) in view of (2) Brecher (US7,054,754) and in view of (3) Moore (US5,577,239) in view of (4) Dittmar (J. Chem. Inf. Comput. Sci. Vol. 23, No. 3), in view of (5) Hull (US6,332,138) and in view of (6) Leiter (J. Chem. Doc., Vol. 15, 1965);
- rejected claims 8 and 26 under 35 USC 103(a) as being unpatentable over (1) Friedman in view of (2) Brecher, in view of (3) Moore, in view of (4) Dittmar, in view of (5) Hull (US6,332,138), and in view of (6) Leiter, and further in view of (7) Drefahl (J. Chem. Inf. Comput. Sci., Vol. 33) and (8) Murray-Rust (New Chem. Vol. 25, p 618-634, 2001);
- rejected claims 18 and 36 under 35 USC 103(a) as being unpatentable over Friedman in view of (1) Brecher in view of (2) Moore in view of (3) Dittmar, in view of (4) Hull, in view of (5) Leiter, and further in view of (6) Kemp (Chem. Inf. Comput. Sci., Vol. 38);
- rejected claims 43-44 under 35 USC 103(a) as being unpatentable over (1) Friedman in view of (2) Brecher and in view of (3) Moore in view of (4) Dittmar in view of (5) Hull

- in view of (6) Leiter, and in view of (7) Shivaratri (Computer December 1992); and
- rejected claims 45-46 under 35 USC 103(a) as being unpatentable over (1) Friedman in view of (2) Brecher and in view of (3) Moore in view of (4) Dittmar in view of (5) Hull in view of (6) Leiter in view of (7) Shivaratri in view of (8) Drefahl and Murray-Rust.

A current listing of claims may be seen in the Applicant's Amendment dated September 10, 2008. Claims 1, 19, 37, and 43 are independent, and for purposes of this Pre-Appeal Conference only, the arguments presented herein are limited to claim 1 only.

First, the Applicants submit that the final Rejection of claim 1 is improper at least for the reason that even if the multiple references cited were combined, which is not agreed to as proper, there still would not be found any disclosure or suggestion of "partitioning text of the text document and assigning semantic meaning to words of the partitioned text, where assigning comprises applying a plurality of regular expressions, rules and a plurality of dictionaries **to recognize chemical name fragments**," as in claim 1.

The Examiner appears to have cited Friedman in the rejection in order to read on where claim 1 relates to **partitioning text of a text document and assigning semantic meanings to words to recognize chemical name fragments**. However, as argued by the Applicants in the last response, Friedman does not relate to these elements as similarly recited in claim 1.

As cited Friedman discloses:

"Widespread adoption of markup languages are evidenced by: the Text Encoding Initiative (TEI) which uses SGML to encode literature; Chemical Markup Language (CML), which involves documentation of chemical compounds using SGML; and Open Financial Exchange (OFE), which is an SGML standard format for interchange of financial transactions," (col. 11, lines 44-50).

The Applicants note that, as cited, Friedman makes a mere statement regarding a widespread adoption of **markup languages** and lists several types including Chemical Markup Language (CML), which involves documentation of chemical compounds using SGML. The Applicants submit that this statement in Friedman is only made as an example of the widespread adoption of

markup languages and that in all of Friedman there can not be found any disclosure or suggestion of recognizing chemical names from text as in claim 1. Accordingly, the Examiner admits in the Advisory Action that “Friedman et al. does not explicitly show the recognition of chemical names.” The Applicants submit that Friedman’s use of markup languages is fundamentally different than partitioning text and recognizing chemical names in the partitioned text because the markup systems listed by Friedman in passing only recognize the **markups** that have been implanted in the document, whereas in contrast to the present invention, these markup systems clearly **do not recognize chemical names in the text itself**. As a further note, in the cited paragraph of Friedman there is also a statement regarding widespread adoption of markup languages which include Open Financial Exchange (OFE), which is similarly seen to be unrelated to Friedman. The Applicants respectfully request that for at least these reasons the rejection of claim 1 should be removed.

Regarding the Examiner’s statement that Brecher shows the recognition of chemical names, the Applicants note that the Examiner has apparently not considered the Applicants’ argument in the Response to the final Office Action that Brecher merely discloses **a chemical name is supplied via a keyboard, file-base input, or a query input**. Thus, Brecher does not disclose partitioning text of the text document or recognizing chemical name fragments. For at least these reasons, neither Friedman nor Brecher, alone or combined, can be seen to disclose or suggest where claim 1 recites “partitioning text of the text document and assigning semantic meaning to words of the partitioned text, where assigning comprises applying a plurality of regular expressions, rules and a plurality of dictionaries to recognize chemical name fragments.” Moreover, none of the references cited are seen to address this shortfall of Friedman and Brecher. The Applicants contend that for at least these reasons the rejection of claim 1 should be removed.

The Applicants note that in addition to Friedman and Brecher, the Examiner has generally combined the references Dittmar, Hull, Leiter, and Moore for rejecting the remaining elements of claim 1. First, the Applicants submit that the rejection is unclear for at least the reason that the rejection fails to correspondingly apply these additional references to the rejected individual elements of claim 1. Further, Dittmar appears to utilize a search method to search a specifically

structured proprietary database of the Chemical Abstract Service (CAS) Chemical Registry System (see page 1, col. 1, lines 1-4). The Applicants note that the Examiner has not addressed the Applicants' argument that one skilled in the art would not be motivated to combine a user interface for searching the proprietary database of Dittmar in order to search other than CAS systems. The CAS online system of Dittmar appears to provide a user interface for online searching of specifically designed CAS screens that are stored and filed in a CAS database (see abstract). Further, Dittmar discloses that a search query is defined in terms of structure diagrams and Boolean operators (page 95, 2nd paragraph). The Applicants submit that the CAS online system of Dittmar cannot be used as a graphical user interface to search a searchable index comprised of a text index stored in association with indexed representations as in claim 1. It is submitted that a modification of the reference using the CAS online system is seen to change the principle operation of the reference. In accordance with MPEP 2143.01, such a combination is improper for an obviousness rejection. The Applicants submit that for at least these reasons an ordinary person skilled in the art would not be motivated to combine Dittmar with the other references cited in the rejection of claim 1.

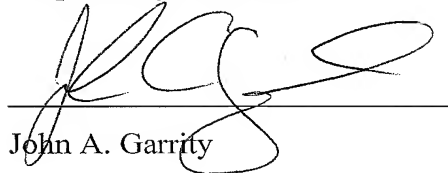
In the rejection of claim 1 the Examiner appears to broadly cite Moore as disclosing or suggesting where claim 1 recites "storing the text index in association with the indexed representations in a searchable index; and providing a graphical user interface to search the searchable index, where the search comprises entering one or more chemical fragment names and entering one or more substructures in a representation form, where the entering is by at least one of text form or graphical selection." The Applicants submit that Moore only appears to perform a search of a partial or complete chemical names using relational database technology. The Applicants contend that neither Moore nor any of the references cited can be seen to relate to **storing a text index in association with indexed representations and a search comprising entering one or more chemical fragment names and entering one or more substructures in a representation form**, where the entering is by at least one of text form or graphical selection as in claim 1.

The Applicants respectfully request the Pre-Appeal Conference Committee to withdraw the

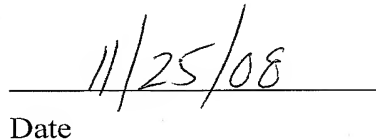
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rejection to claims 1-3, 6-21, 24-39, and 42-46. If the Committee deems it appropriate, the undersigned representative welcomes the opportunity to clarify or resolve any matters pertaining to this application via teleconference.

Respectfully submitted:



John A. Garrity



Date

Reg. No.: 60,470 Customer No.: 48237

HARRINGTON & SMITH, PC, 4 Research Drive Shelton, CT 06484-6212

Telephone: (203)925-9400, email: jgarrity@hspatent.com